We claim:

1. A method for performing pulse volume measurement on a patient, the method comprising:

(a) taking a plethysmographic signal from the patient, the plethysmographic signal comprising a plurality of plethysmographic waveforms;

(b) performing an autocorrelation on the plethysmographic signal to determine locations of the individual plethysmographic waveforms;

(c) isolating one of the plethysmographic waveforms in accordance with the autocorrelation;

(d) convolving the isolated plethysmographic waveform with the plethysmographic signal to align the isolated plethysmographic waveform with the plethysmographic signal;

(e) performing signal averaging between the isolated plethysmographic waveform and the plethysmographic signal as aligned in step (d) to provide an averaged signal; and

(f) performing the pulse volume measurement in accordance with the averaged signal.

2. The method of claim 1, wherein step (c) comprises determining whether the isolated plethysmographic waveform has an amplitude which remains in a predetermined range.

3. The method of claim 2, wherein step (d) comprises determining a time window in which the plethysmographic signal is tested to determine whether the plethysmographic signal has an amplitude which remains in the predetermined range during the time window.

4. The method of claim 3, wherein steps (d) and (e) are performed for a plurality of plethysmographic waveforms in the plethysmographic signal.

5. The method of claim 4, wherein step (c) is performed for a plurality of plethysmographic waveforms in the plethysmographic signal to provide a plurality of isolated

plethysmographic waveforms, and wherein steps (d) and (e) are performed for the plurality of isolated plethysmographic waveforms.

6. A method for averaging a signal which comprises a plurality of individual waveforms in sequence, the method comprising:

(a) performing an autocorrelation on the signal to determine locations of the individual waveforms in the signal;

(b) isolating one of the waveforms in accordance with the autocorrelation;

(c) time-shifting the isolated waveform to align the isolated waveform with another waveform in the signal; and

(d) averaging the isolated waveform and the other waveform.

7. The method of claim 6, wherein step (c) comprises performing a convolution of the isolated waveform with the signal to determine an optimal alignment between the isolated waveform and the other waveform.

8. The method of claim 7, wherein step (c) further comprises using the convolution to determine a time window containing the other waveform and determining whether, during the time window, an amplitude of the other waveform remains within a predetermined range.

9. The method of claim 8, wherein steps (c) and (d) are performed a plurality of times for a plurality of other waveforms in the signal.

10. The method of claim 9, wherein step (b) is performed a plurality of times to provide a plurality of isolated waveforms, and wherein steps (c) and (d) are performed for each of the isolated waveforms.

11. The method of claim 6, wherein step (b) comprises testing the isolated waveform to determine whether the isolated waveform has an amplitude which remains in a predetermined range.

12. The method of claim 6, wherein the signal is a plethysmographic signal.

13. The method of claim 12, wherein the signal is taken in a circumstance in which a separate ECG signal is not available.

14. The method of claim 6, wherein the signal is periodic.

15. The method of claim 6, wherein the signal is approximately periodic.

16. A system for averaging a signal which comprises a plurality of individual waveforms in sequence, the system comprising:

an input for receiving the signal; and

circuitry, in communication with the input, for:

(a) performing an autocorrelation on the signal to determine locations of the individual waveforms in the signal;

(b) isolating one of the waveforms in accordance with the autocorrelation;

(c) time-shifting the isolated waveform to align the isolated waveform with another waveform in the signal; and

(d) averaging the isolated waveform and the other waveform.

17. The system of claim 16, wherein the circuitry performs step (c) by performing a convolution of the isolated waveform with the signal to determine an optimal alignment between the isolated waveform and the other waveform.

18. The system of claim 17, wherein the circuitry performs step (c) further by using the convolution to determine a time window containing the other waveform and determining

whether, during the time window, an amplitude of the other waveform remains within a predetermined range.

19. The system of claim 18, wherein the circuitry performs steps (c) and (d) a plurality of times for a plurality of other waveforms in the signal.

20. The system of claim 19, wherein the circuitry performs step (b) a plurality of times to provide a plurality of isolated waveforms, and wherein steps (c) and (d) are performed for each of the isolated waveforms.

21. The system of claim 16, wherein the circuitry performs step (b) by testing the isolated waveform to determine whether the isolated waveform has an amplitude which remains in a predetermined range.

22. The system of claim 14, wherein the circuitry comprises a digital signal processor.